

Miscellaneous Publication 147

**A Guide to Services Offered
by the Office of Ground-Water Information,
Illinois State Water Survey**

Illinois State Water Survey
2204 Griffith Drive
Champaign, Illinois 61820-7495

A Division of the Illinois Department of Natural Resources



The Office of Ground-Water Information in the Hydrology Division of the Illinois State Water Survey offers a full range of ground-water information services, including well records, hydrologic reports, and data on well production tests, water levels, water quality, and water quantity. Many of these resources are now computerized. Staff members are also available for consultation and presentations on all ground-water-related issues.

Ground-Water Well Records

More than 3.5 million hydrologic records are on file at the Illinois State Water Survey, including more than 300,000 paper copies of water-well construction reports. The accumulation of these records began almost a century ago when the Water Survey was established in 1895.

From those early beginnings, the Water Survey's records have grown to comprise files of information relevant to municipal, private, industrial-commercial, irrigation, and other types of wells in the state. These records include water-well construction reports; plugging affidavits; water quality chemical analysis reports; water-related correspondence; maps; and reports on special projects, well production tests, and Ground-Water Quality Protection Program site surveys.

The data management group collects and organizes water well permits and water-well construction reports, updates the Private Well database, and records other pertinent documents. The service and information group handles public relations concerning ground-water information; disseminates data by telephone, computer printouts, or paper documents; and works directly with Health Departments throughout Illinois. Most of the paper files maintained by the Office of Ground-Water Information are easily accessible to all researchers and individuals requiring this information. Many files are computerized on the Private *or* Public-Industrial-Commercial Survey (PICS) databases. Some of these data are also available on the World Wide Web (ww4.sws.uiuc.edu). Computer printouts or paper documents of specific areas are available on request. A small fee may be incurred in some instances. The Office responds to more than 2,000 information requests annually.

Hydrologic Reports

The Office of Ground-Water Information provides technical assistance regarding ground-water resource availability and quality, water-well design, potential yields of wells, etc., for regional aquifers throughout Illinois. These requests are answered by telephone, letter, or report.

Analysis and advice on well design are provided to ensure that wells will deliver sediment-free ground water from an aquifer at the desired pumping rate. The Office also suggests optimal well spacings, pumping rates, and pumping schedules in order to prolong the service life of wells and aquifers.

Reports published by the Office include the Bulletin 60 series. These in-depth reports address all aspects of public ground-water supplies for each county of Illinois. Each report in the series details the ground-water geology of the county, and reviews ground-water development for public use. A brief history is given for each public water supply described in the report, and background information is outlined on each well for the supply. Reports have been published for 36 counties and are available on request. Reports on 42 other counties are in various stages of preparation. Draft reports for specific public water supplies can also be sent on request.

Well Production Tests

Well production tests are conducted by the Office for public water supplies and large-capacity wells. The field procedure involves collection of drawdown data in a pumped well and in observation wells (if available) at predetermined time intervals, while pumping is maintained at a constant rate. The Water Survey has developed and currently uses a Microcomputer Data Automation System to collect drawdown data. These data are analyzed to estimate the well's long-term safe yield. The aquifer properties derived from the drawdown test data collected by the Water Survey and by well-drilling contractors are maintained on the Office's Aquifer Properties database. There may be a small fee if the test is conducted for more than three hours.

Water-Level Monitoring Network

All of the data collected by the Water Survey on ground-water levels are available to the general public and researchers. In addition, the Office maintains a statewide network of observation wells that monitor water levels. Data on ground-water levels are collected monthly from approximately 109 active observation wells. The Water Survey also conducts mass measurements of specific areas in the state every five to ten years. All of these water-level data are computerized and published periodically. These reports are used to assess the extent of water-table lowering in areas near pumping wells, to identify areas that are subject to rising water tables, and to determine directions of ground-water flow in specific areas.

Water Quality

The Water Survey's Chemistry Division Public Service Laboratory tests water samples from household taps, water fountains, wells, rivers, cisterns, drainage tiles, heating and cooling systems, and ponds throughout Illinois. Call (217) 333-9234 for a water sample collection kit.

Water quality data compiled by the Chemistry Division are maintained by the Office of Ground-Water Information in a water quality database. The database now contains about 50,000 records of chemical analyses from samples analyzed at the Water Survey laboratories and the Illinois Environmental Protection Agency (IEPA) laboratories. Some of these analyses date to the early part of the century, but most are from 1970 to the present. Before 1987, most analyses addressed inorganic compounds and physical parameters. Since then, many organic analyses have been added to the database from the IEPA Safe Drinking Water Act compliance monitoring program.

Water Quantity

The Illinois Water Inventory Program was initiated in 1978 to centralize our state's diverse array of water quantity information. Inventory data are used by state agencies and for resource-related research and studies involving water withdrawal, water use, and water returns.

The PICS database, developed for the Inventory, contains site-specific information for about 9,800 active and inactive high-capacity withdrawal-point sources from about 4,000 facilities throughout Illinois. The database covers public water-supply wells and surface water intakes; and high-capacity wells (more than 70 gallons per minute) and surface water intakes for industry, commercial establishments, and fish and wildlife management areas. The PICS database also contains detailed annual pumpage information for wells and surface water intakes since 1978. The water use data are included in the U.S. Geological Survey's National Water Use Data System, and reports on water withdrawals are published periodically.

Computerized Services

Information is collected from a wide variety of sources and managed on a Sun SPARCStation IPC. The Office is currently automating water-well information and planning strategies for incorporating more natural resource information into uniform databases. Most of the water-well information has been automated, along with water quality and quantity information from public and domestic ground-water supplies. The next phase of data management includes document imaging.

Information from all of our databases has been used with the computerized Geographic Information System (GIS), which uses specialized software to display spatial data on maps. Information collected by the Office has been used in research at many Illinois agencies to develop a broad spectrum of maps on various aspects of the state.

Staff

Kenneth J. Hlinka, Director (217) 333-8431. Responsible for all Office activities. Contact for hydrologic information, well production testing and test analyses, and water-level monitoring network data. Coordinator of the GIS mapping system for ground-water studies and research.

Kristopher K. Klindworth (217) 244-7120. Assistant to the Office Director, database coordinator for computerizing well records, and computer programmer. Contact for computer-related problems and services.

John Blomberg (217) 333-8099. Computer programmer. Contact for water quality and quantity database information and computer-related services and problems. GIS mapping specialist.

Andrew G. Buck (217) 333-6800. Contact for hydrologic information, well production testing and test analyses, and well-screen designs.

Kay Charles (217) 333-0239. Contact for water quantity data from the Water Inventory Program.

Bryan Coulson (217) 333-9619. Contact for hydrologic information, well production testing, and domestic well problems.

Susie Dodd (217) 333-9043. Contact for water-well records and computer printouts.

Brenda Hughes (217) 333-7223. Contact for water-well records and computer printouts.

DeAnna Overcast. (217) 333-8965. Manager, record room paper documents. Responsible for maintaining hydrologic records, reports, etc.

The Illinois Department of Natural Resources does not discriminate based upon race, color, national origin, age, sex, religion or disability in its programs, services, activities, and facilities. If you believe that you have been discriminated against or if you wish additional information, please contact the Department at (217) 785-0067 or the U.S. Department of the Interior Office of Equal Employment, Washington, D.C. 20240.